



**One day capsule course on Indian Standards on Code of Practice for  
REINFORCED SOIL STRUCTURES**

**2<sup>nd</sup> March, 2026 At**

**NITS, BIS**



**BUREAU OF INDIAN STANDARDS  
National Institute of Training for Standardization (NITS),  
A 20 & 21, Institutional Area, Sector 62, NOIDA -  
201309**

## 1. What are Reinforced Soil Structures ?

Soil, being inherently weak in tension, often requires reinforcement to enhance its performance in structural applications. Reinforced soil retaining structures consist of near vertical or steep sloped earthen embankments reinforced with geogrids. This technology has become important in highway construction as it helps reducing the right of way (ROW) and reducing the quantity of material required, thereby providing a cost effective and environmentally friendly solution.

## 2. Significance and Application of Reinforced Soil Structures in Today's Context?

- ❖ The significance of Reinforced Soil structures in modern construction includes:
  - ✓ Importance in transportation infrastructure (highways, bridges, elevated corridors).
  - ✓ Reducing right-of-way and material usage, and improving sustainability.
  - ✓ Adaptability and performance under varied load conditions.
- ❖ It has a wide range of applications, some of which are:
  - ✓ Mechanically Stabilized Earth (MSE) walls, reinforced soil slopes, true abutments.
  - ✓ Embankments and shored reinforced systems.
  - ✓ Slope stabilization, roadside protection, flood and erosion control.

## 3. Role of Bureau of Indian Standards

Bureau of Indian Standards has recently published IS 18591: 2024 Code of Practice on Geosynthetics Reinforced Soil Structures, which covers investigations, material specifications, design, detailing and construction of the following types of reinforced soil structures:

- a) Reinforced soil walls
- b) Reinforced soil slopes
- c) Reinforced soil true abutments
- d) Shored reinforced soil walls/slopes and embankments with basal reinforcement/mattress.

This standard provides comprehensive and detailed guidance to enable engineers to design and construct reinforced soil structures that are safe, serviceable and durable.

Other related Indian Standards include:

- **IS 17373:2020 – Geosynthetics – Geogrids Used in Reinforced Soil Retaining Structures**  
*Specifications for geogrids used as reinforcement in soil retaining walls and slopes.*
  - **IS 17372:2020 – Polymeric Strip or Geostrip Used as Soil Reinforcement**  
*Quality criteria for geostrips used in reinforced soil applications.*  
– IRC and other guideline documents relevant to design and construction best practices
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## COURSE OVERVIEW:

### + Course Title:

One Day Capsule Course on Indian Standards on Code of Practice for Reinforced Soil Structures

### + Objective:

The course aims to make the participants aware about the design principles, philosophies, and methodologies for Reinforced Soil Structures as per IS 18591, equip the participants with the knowledge and skills necessary to design and construct safe, efficient, and durable reinforced soil structures—including walls, slopes, true abutments, shored walls, and basal reinforcement using IS 18591, and understand the construction practices and detailing mentioned in IS 18591.

### + Who Should Attend?

The course is designed for:

- ✓ Geotechnical engineers, geosynthetic design engineers, and highway construction professionals involved in designing and executing highways and expressways in different terrains
- ✓ Senior government professionals responsible for directing these activities
- ✓ Geosynthetic manufacturers, suppliers and contractors
- ✓ Researchers and academicians in Geotechnical Engineering
- ✓ Any interested professional

### + Course Duration:

1 Day | **Mode:** Offline

### + Fees:

- The course fee is **Rs.1000** /- + **18% GST** per participant.
- Accommodation and transportation charges have to be borne by the participants.
- No training fee for Government Officials (Central/States/UTs) officially nominated by their department heads.

### + Venue:

- The course will be held at the training centre of BIS, **National Institute of Training for Standardization (NITS), situated at Noida.**
- **Address:** National Institute of Training for Standardization (NITS), A 20 &21, Institutional Area, Sector 62, NOIDA – 201309

### + Certification:

- Certificate will be awarded to all participants on completion of course.

## COURSE MODULE:

Time	Session	Faculties/Speakers
10:00 – 10:15 h	Welcome Address	Shri A. Chatterjee, Head NITS
10:15 – 11:00 h	Brief Overview of IS 18591:2024- Geosynthetic Reinforced Soil Structures, and other related Indian Standards on Geosynthetics	Officer from TXD
11:00 – 11:15 h	TEA BREAK	
11:15 – 13:00 h	[Technical Session – I] <i>Presentations on the technical aspects of:</i> a) Subsurface Investigation b) Design of Reinforced Soil Walls – I c) Design of Reinforced Soil Walls – II	External Faculty
13:00 – 14:00 h	LUNCH BREAK	
14:00 – 15:45 h	[Technical Session – II] <i>Presentations on the technical aspects of:</i> a) Design of Reinforced Soil Slopes b) Design of Basal Reinforcement c) Basal Reinforcement with Geocell	External Faculty
15:45 – 16:00 h	TEA BREAK	
16:00 – 17:30 h	[Technical Session – III] <i>Presentations on the technical aspects of:</i> a) Reinforced Soil True Abutments b) Shored Reinforced Soil Structure c) Testing and Geosynthetics Specification d) Drainage, Detailing & Construction Aspects	External Faculty

## HOW TO APPLY?

- |   |
|---|
| <ul style="list-style-type: none"><li>• <b>VISIT</b> the e-BIS Website: <a href="http://www.manakonline.in">www.manakonline.in</a></li></ul>  |
| <ul style="list-style-type: none"><li>• <b>CLICK</b> on the "Training" Head</li></ul>   |
| <ul style="list-style-type: none"><li>• <b>LOGIN</b> by clicking on the blue "LOGIN" button on the top right corner</li></ul>   |
| <ul style="list-style-type: none"><li>• <b>SIGNUP</b> by clicking on "SIGNUP" on the Member Login Page if you are not a member otherwise "SIGN IN" using your credentials</li></ul> |
| <ul style="list-style-type: none"><li>• <b>FILL OUT</b> all the fields and click on "REGISTER" and complete the registration process</li></ul>                                      |
| <ul style="list-style-type: none"><li>• <b>CHOOSE</b> the course you want to apply for, fill in the required information and "PAY" the requisite fee</li></ul>                      |

In case you are unable to submit your nomination on the BIS Training Portal, the same may be done by emailing filled up nomination form to [nits@bis.gov.in](mailto:nits@bis.gov.in). In that case, payment of the requisite fee may be made via NEFT/UPI to the Bureau of Indian Standards Bank Account, details of which are mentioned in the nomination form.

### Contact:

*For any further queries, you may contact:*

Ms. Ankita Neogi Bag  
Scientist- C/Dy. Director and Course Coordinator,  
Mobile – 8777529355  
Email: [nits@bis.gov.in](mailto:nits@bis.gov.in)



राष्ट्रीय मानकीकरण प्रशिक्षण संस्थान, नोएडा  
NATIONAL INSTITUTE OF TRAINING FOR STANDARDIZATION, NOIDA  
भारतीय मानक ब्यूरो  
BUREAU OF INDIAN STANDARDS

### Nomination Form

Name of the Programme			
Date of the Programme		Venue:	
Sponsoring Organization (OR In Individual Capacity) with complete Address			
Telephone /Mobile Number			
Organization/Firm GST No.			
Email ID			

#### Participants Details

Sl. No.	Name (IN CAPITAL LETTERS)	Designation	Contact No.	Email
1.				
2.				
3.				
4.				
5.				

Will you stay in Hostel?		If yes, please mention the date and time					
Yes	No	Arrival	Date	Time	Departure	Date	Time

#### Details of Payment (in Rupees)

Training Fees *	Hostel Charges *	GST ##	Discount, if any	Total amount

#### Mode of Payment

Name of Bank	UTR No. & Date of transaction # (for NEFT/Net banking/ IMPS/UPI payment)	Amount (in Rs.)

\* For Training/hostel fees, see NITS Training Calendar at BIS website [www.bis.gov.in](http://www.bis.gov.in). (Stay in hostel is charged on Night stay basis).

# For payments by **NEFT**, Payment should be made to **Bureau of Indian Standards, Savings A/c No. 712210100000650, Bank of India, Sec-62 Noida, Branch Code 7122, IFSC Code BKID0007122.**

## NITS GST No. 09AAATB0431G2Z8, SAC Code: 999294 Applicable GST@ 18% on Training fee and Hostel fee.

Date: \_\_\_\_\_

Signature and Seal \_\_\_\_\_

The nomination form should preferably be scanned and e-mailed to [nits@bis.gov.in](mailto:nits@bis.gov.in), [hnits@bis.gov.in](mailto:hnits@bis.gov.in), and reach NITS at least one week before the programme date. For sending hard copy may be addressed to:

**Head, National Institute of Training for Standardization (NITS), Bureau of Indian Standards,**

**A – 20 & 21, Institutional Area, Sector – 62, NOIDA - 201309, U.P.**

Phones: 0120 – 4670227, 4670232, Email: [nits@bis.gov.in](mailto:nits@bis.gov.in), [hnits@bis.gov.in](mailto:hnits@bis.gov.in), Website: <http://www.bis.gov.in>

#### Important:

1. Participants are requested to get the confirmation from NITS, whether, nomination has been accepted or not **before attending the programme.**

#### 2. Rules for Refund of Training & Hostel Fees:

a) A refund of full fees shall be made when cancellation/withdrawal of nomination is made **at least 15 days** in advance of the date of the training.

b) Cancellation/withdrawal of nomination is made **less than 15 days** in advance of the date of the training programme or is not informed, a **cancellation charge of 25%** of the training fees would be levied. The balance amount after deducting the cancellation charges would be returned.

c) Hostel fees if any, paid in advance shall be returned in full.



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National Institute of Training for Standardization



## Reach Us

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